

side; *frontal callus* fairly deep on each side, narrowing towards middle line, where it is distinctly constricted; dark seal-brown median spot below callus present; *lateral frontal clove-brown spots* small, widely separated from eyes, median frontal spot very small or obsolete; *palpi* isabella-coloured, terminal joint moderately slender, thickly clothed on outside with black hairs, and with some pale yellowish hairs on under side of basal half; *antennæ* russet-brown, terminal annulus of third joint darker, first joint somewhat short, slightly swollen, with convex inner margin when viewed from above, third joint only slightly expanded towards base. *Thorax*: pleuræ, pectus, and sides of dorsum smoke-grey; *scutellum* smoke-grey, with a dark brown blotch on each side. *Abdomen*: venter as in *H. stimulans*, Austen. *Halteres* as in *H. stimulans*.

Nyasaland Protectorate, 1907 (*Tr. J. E. S. Old*).

Care is necessary in order not to confuse *H. nocens* with one or other of the two foregoing species, to both of which it presents a superficial resemblance, although from both it may be distinguished by the finer and less complex light markings of the wings; other points of difference from *H. furtiva* are furnished by the shape of the frontal callus, and the browner and more incrassate first joint of the antennæ; from *H. nociva* the present species may further be distinguished by the shape and coloration of the frontal callus and first joint of the antennæ; from *H. noxialis*, Austen, which, as already stated, it closely resembles in the coloration and markings of the wings, *H. nocens* may be distinguished, *inter alia*, by the coloration and shape of the frontal callus, and the presence of a median stripe on the dorsum of all the abdominal segments except the first and last.

#### XIV.—Remarks on the Hymenopterous Genus *Tiphia*.

By ROWLAND E. TURNER, F.Z.S., F.E.S.

ASHMEAD (Canadian Entomologist, 1900 and 1903) forms a family Tiphidæ to include the genera *Tiphia*, *Paratiphia*, *Epomidiopteris*, *Pterombrus*, and *Engycystus*. While agreeing with him as to the points distinguishing the group from the true Scoliidæ being of more than generic importance, I do not think he is justified in making more than a subfamily for it. I also differ from him in his remarks on *Pterombrus* and *Engycystus*. The differences which he gives between

the two genera are not very important on his own showing, and they certainly are not quite accurate; the cubitus in the hind wing of the male of *Engycystus rufiventris*, Cress., can hardly be said to be interstitial with the transverse median nervure, though distinctly nearer to it than in *Pterombrus confusus*, Sm. The hind tibiæ of the female *Pterombrus ænigmaticus*, Sm., are serrate, though not strongly. As far as I can see there is absolutely no justification for treating *Pterombrus* and *Engycystus* as separate genera. Ashmead, however, had not seen specimens of *Pterombrus*. He also states that he has examined both sexes of *E. rufiventris* and finds them true Tiphids; but he makes absolutely no mention of important points of difference. The intermediate coxæ of *Pterombrus ænigmaticus* ♀ are contiguous, not widely separated as in *Tiphia*; the radial cell is closed, and there are three complete cubital cells; the antennæ also are very different. In the male the intermediate coxæ are almost, though not quite, contiguous, the neurulation of the fore wing resembles that of the female, and the aculeus of the hypopygium is long and recurved as in *Myzine*, and very much longer than in *Tiphia*. Ashmead gives as one of the characters of his Tiphidæ, "pygidium in ♂ entire." For *Tiphia* this is correct, but in *Pterombrus*, though not deeply slit as in *Myzine*, it certainly seems to me to be distinctly emarginate in the middle of the apical margin. The points in which an approach to *Tiphia* may be noticed are the entire eyes and the development of the stigma. I only know the female of *E. rufiventris* by Fox's figure and description, which are quite sufficient to show the identity of the genus with *Pterombrus*. In my opinion the male of *Pterombrus* is distinctly nearer to *Plesia* than to *Tiphia*; whilst the female shows many important points of distinction from both. Ashmead suggests that *Engycystus* is closely allied to *Epomidioptron*, which he classes in his Tiphidæ, as I think rightly, in spite of the absence of a recurved spine on the hypopygium of the male. But the difference between the two genera is very great, and I gather from his remarks that he had not seen specimens of *Epomidioptron*.

In his classification of his family Cosilidæ in the same paper, Ashmead also seems to me to fall into many mistakes, probably for want of sufficient material. The intermediate coxæ are not, as he states, contiguous, or nearly so, in the females especially they are widely separated, though not quite as widely as in *Tiphia*. He places *Dimorphoptera* in his family Myzinidæ and *Anthobosca* in the Thynnidæ, though *Anthobosca* is really the male sex of both *Callosila*,

Sauss., and *Dimorphoptera*, both of which I have treated in former papers as synonyms of *Cosila*, sinking all three names under *Anthobosca*. I follow Sichel and Saussure in regarding the group as a link between *Myzine* and *Scolia*, though also showing some affinities with the Thynnidæ. The other genera placed by Ashmead in the Cosilidæ seem to me to be of very doubtful affinities, but I have not seen specimens of *Sierolomorpha*, *Dicrogenium*, *Nursea*, or *Isotiphia*. *Maurillus*, Sm., seems to me to be rightly placed by Smith in the Pompilidæ, the mandibles being the only feature in which it resembles the groups allied to *Scolia*. *Fedtschenkia*, like *Pterombrus*, is a very distinct genus, which does not fall conveniently into any group, but is probably better placed as a subfamily of the Mutillidæ, as is done by André. I have only seen the male, but Ashmead places it with the Cosilidæ only because the female is winged. The male agrees with *Anthobosca* in the total or almost complete absence of the transverse depression between the first and second ventral segments, a character by which *Anthobosca* may be at once separated from *Myzine* or *Tiphia*, as well as in the unarmed hypopygium. The former character is shared with many of the Thynnidæ, especially in the female sex. Ashmead's key to the classification of his family Myzinidæ ('Canadian Entomologist,' 1903) is very confused, the characters for the females being in several cases given under the heading "males." He is, however, probably correct in placing *Pacilotiphia*, Cam., in the family.

*Tiphia compressa*, Sm.

♀. The type is from China; Indian specimens have the anterior wings fusco-violaceous, and the intermediate and posterior femora and trochanters wholly ferruginous; there is also an oblique carina on each side on the dorsal surface of the median segment, reaching from the base, where it is about as far from the outer of the central carinæ as that is from the median carina, to within a short distance of the apical angle of the segment; this carina is only faintly indicated in the type.

♂. Clypeus rather finely and closely punctured, shallowly and broadly emarginate at the apex; head shining, the front closely and rather finely, the vertex and the space round the ocelli very sparsely punctured; the scape finely and closely punctured, with a few rather short, pale fulvous hairs beneath. Pronotum shining, sparsely and rather finely punctured, the posterior margin broadly smooth; the propleuræ smooth and

shining, the mesopleurae finely and rather sparsely punctured. Mesonotum and scutellum rather sparsely punctured, the tegulae smooth and shining. Median segment short, very broadly emarginate at the apex, subopaque, the median carina reaching the apex, with one on each side of it, the last two converging towards the apex, where they are separated by a distance equal to about two-thirds of that which separates them at the base; there is also a more obscure carina on each side, rather less oblique than in the female, and reaching the apical margin at a distance from the apical angle equal to that by which the two outer carinae of the median series are separated from each other on the apical margin, the space between the carinae very finely rugulose; the surface of the posterior truncation slightly concave, smooth and shining; the sides of the segment are coarsely striated. Abdomen shining, the two basal segments and the base of the third smooth, the apex of the third and the whole of the remaining segments finely and closely punctured and clothed at the sides with fulvous pubescence, the basal segment with a deep, longitudinally-striated transverse sulcus near the apex; a similar but deeper sulcus at the base of the second segment. The transverse median nervure is received very distinctly behind the transverse basal nervure; the recurrent nervure is received near the apex of the second cubital cell.

Black; the mandibles at the apex, the palpi, the apex of the femora, and the anterior tarsi fusco-ferruginous. Wings very light fusco-hyaline, hyaline at the base; nervures fuscous, the stigma black.

Length 7 mm.

*Hab.* Maymyo, Burma, 3000 ft. (*Bingham*), ♂ ♀ *in cop.*; Shillong, Assam, 6000 ft. (*Turner*).

*T. clavinerva*, *Cam. Ann. & Mag. Nat. Hist.* (7) xiii. p. 281, 1904, ♂, is extremely near to this species and may prove to be a synonym, but as there are slight differences in the sculpture and neuration it is better not to sink the name until more specimens are available. The carina on the first ventral segment is the same in both species. *Tiphia robusta*, *Cam.*, will probably prove to be a variety of the female; specimens from Lower Burma and Siam, which I refer to *compressa*, are without the lateral dorsal carinae on the median segment and show only the three usual carinae on the middle.

*Tiphia rufipes*, Sm.

A specimen from Ceylon in the British Museum has the

legs and antennæ black, the stigma is also black and rather longer, and the nervures fuscous. Otherwise, except for the rather longer and narrower shape of the stigma, it does not seem to differ from the type. Specimens from Lower Burma have the antennæ and nervures dark, but the legs are red as in the type. The species is easily distinguished by the very large stigma, which is as large as in many of the males of the genus. The type apparently came from Northern India.

*Tiphia auripennis*, Bingham.

*Tiphia auripennis*, Bingham. Fauna Brit. India, Hym. i. p. 64 (1897), ♀.

*Tiphia curvinervis*, Cam. Entomologist, p. 238 (1902), ♀.

*Tiphia fulvinerva*, Cam. Ann. & Mag. Nat. Hist. (7) xiii. p. 286 (1904), ♀.

Cameron states that *fulvinerva* is quite distinct from *auripennis*, but does not say how it differs, and I fail to find any difference of specific importance.

*Tiphia persica*, sp. n.

♀. Clypeus short, truncate at the apex, sparsely punctured, the apical margin smooth. Head shining, sparsely punctured, very sparsely behind the ocelli; scape finely and closely punctured, with long golden hairs beneath; the head is rather large and strongly rounded posteriorly. Pronotum deeply but rather sparsely punctured, broadly smooth and shining posteriorly, the surface of the anterior truncation finely and closely punctured; propleuræ striated, very obscurely at the summit, more strongly below; mesopleuræ sparsely punctured. Mesonotum almost smooth on the sides, deeply punctured in the middle, the tegulæ smooth. Scutellum sparsely, but deeply, punctured, the centre almost smooth; the postscutellum finely and sparsely punctured. Median segment subopaque, finely rugulose, almost smooth and shining near the apical angles, the three longitudinal carinæ parallel and all reaching to the apex, the surface of the posterior truncation shallowly punctured, the sides of the segment closely striated. Abdomen closely and rather finely punctured, more sparsely and deeply on the two basal segments, the four apical segments much more finely punctured at the base than at the apex, all the segments narrowly smooth on the apical margin, the epipygium coarsely punctured-rugose in the middle. The second recurrent nervure is received by the second cubital cell at about two-thirds from the base; the second transverse cubital nervure is oblique, strongly curved outwards on the upper half.

Black, with white pubescence; the mandibles and the

antennæ beneath fuscous: the apex of the pygidium and the spines of the tibiæ and tarsi testaceous brown. Wings very pale flavo-hyaline, nervures and stigma dark ferruginous.

Length 13-16 mm.

*Hab.* "K. Sefid," S.W. Persia (*Escalera*).

Described from six specimens in the B. M.

Near *T. auripennis*, Bingham, but differs in the larger and more rounded head and the more closely punctured abdomen, also in the paler colour of the wings. Also near *T. fulvipennis*, Sm., but that species has a faint transverse carina on the first abdominal segment.

*Tiphia himalayensis*, Cam.

*Tiphia himalayensis*, Cam. Ann. & Mag. Nat. Hist. (7) xiii. p. 282 (1904), ♀.

*Tiphia fumipennis*, Magr., var. *a*, Ann. Mus. Civ. Genova, (2<sup>a</sup>) xii. p. 52 (1892) (nec Smith); Bingham. Fauna Brit. India, Hym. i. p. 58 (1897).

*T. fumipennis*, Sm., from Borneo has the median segment much longer than in continental specimens and the epipygium is punctured, not striated. *Tiphia rothneyi*, Cam. Ann. & Mag. Nat. Hist. (7) xi. p. 324 (1903), ♀, will probably prove to be the same species as *T. himalayensis*, being distinguished only by the sculpture of the pleuræ, but until more specimens are available it is better to keep them separate. I have seen specimens of *T. himalayensis* from Sikkim and Assam and find considerable variation in the development of the sculpture on the pro- and mesopleuræ, but the sides of the median segment are striated in all the specimens I have seen, not closely punctured as in *T. rothneyi*.

*Tiphia tibetana*, sp. n.

♀. Clypeus slightly produced and truncate at the apex, finely and closely punctured, the apical margin smooth and shining. Head sparsely, but rather deeply, punctured, with very sparse grey pubescence; the scape shining, sparsely punctured, with a few long grey hairs beneath. Pronotum very sparsely punctured, the posterior margin very broadly smooth and shining, the propleuræ smooth and shining, delicately striated near the lower posterior angle; the mesopleuræ coarsely, but rather sparsely, punctured. Mesonotum sparsely punctured, almost smooth on the sides, the tegulæ smooth. Scutellum smooth, with a row of punctures at the apex, the postscutellum almost smooth. Median segment subopaque and finely aciculate, shining near the apical

angles, the three longitudinal carinæ parallel, the median one not nearly reaching the apex, the surface of the posterior truncation shining and almost smooth, with a median carina on the apical half and slightly concave, the sides of the segment coarsely striated. Abdomen shining, sparsely and shallowly punctured, most sparsely on the two basal segments; the basal segment rather slender, rounded anteriorly, the sides of the segments thinly clothed with grey pubescence. Epipygium strongly punctured at the base, the punctures confluent longitudinally, broadly smooth at the apex. The second recurrent nerve is received close to the middle of the second cubital cell.

Black; the mandibles at the apex fusco-ferruginous; the apex of the pygidium and the spines of the tibiæ and tarsi dark testaceous, the antennæ beneath fuscous. Wings fusco-hyaline, nervures dark brown.

Length 12 mm.

♂. Clypeus finely and closely punctured, the extreme apex smooth and shining and narrowly truncate, rather closely covered with cinereous pubescence. Head finely and closely punctured, most sparsely round the ocelli. Pronotum finely and rather sparsely punctured, the posterior margin very broadly smooth and shining; the propleuræ smooth and shining, the mesopleuræ shallowly and rather closely punctured. Mesonotum sparsely, but deeply, punctured; scutellum and postscutellum sparsely punctured. Median segment subopaque, punctured-rugulose, the three longitudinal carinæ parallel, the median one not reaching much more than halfway to the apex, the sides of the segment striated. Abdomen shining, sparsely punctured, most sparsely on the two basal segments; the basal segment long and slender, with a small tubercular prominence on each side near the base. The radial cell extends beyond the second cubital cell, which receives the second recurrent nerve at the middle.

Black; the spines of the tibiæ and tarsi testaceous. Wings hyaline, iridescent, nervures black.

Length 8-9 mm.

*Hab.* Gyantse, Tibet, 13,000 ft. (*H. J. Walton*).

Type in B. M. Described from 4 ♂ and 4 ♀.

Very near *simlaensis*, Cam., but the first abdominal segment is much more elongate in both sexes, it is more sparsely punctured, and the shape of the anterior margin of the clypeus is different in the male.

*Tiphia intrudens*, Sm.

I can see no important distinctions in specimens of this wide-ranging species from most distant localities; females of the Indian form of the species usually have the second cubital cell rather longer, and the pubescence on the abdomen in a pair taken by me in Assam (6000 ft.) is closer and of a distinctly fulvous colour in both sexes.

*Hab.* Mysol (*Wallace*); Mackay and Cairns, Q. (*Turner*); Burma; Assam (*Bingham*).

This is the only species of the genus known to occur in Australia. The specimens from Queensland have the median segment shorter in the female and the wings paler in both sexes than in the typical form, clear hyaline in the male. I propose the name *T. intrudens*, st. *brevior*, st. n., for the Australian form.

*Tiphia annandalei*, sp. n.

♀. Clypeus truncate at the apex, closely punctured at the base, the apex smooth and depressed. Head punctured, but not very deeply or closely, the space round the base of the antennæ very minutely and closely punctured; the posterior ocelli twice as far from the eyes as from each other. Scape finely and closely punctured, with long pale fulvous hairs beneath and a few shorter hairs above, the two basal joints of the flagellum shining and sparsely punctured. Pronotum closely punctured on the anterior third, the posterior two-thirds smooth and shining; the anterior slope rather closely punctured, smooth in the middle; the propleuræ rather deeply punctured at the margins, shining and almost smooth, with very fine and almost obsolete striæ, a row of deep punctures a little before the posterior margin; the mesopleuræ shining and very sparsely punctured. Mesonotum and scutellum very sparsely punctured, a curved row of deep punctures close to the posterior angles of the scutellum, the tegulæ subopaque, shining at the apex. Median segment slightly convex, nearly as long as broad, subopaque and finely aciculated, smooth and shining at the posterior angles, the three longitudinal carinæ parallel and all reaching the apex. Abdomen shining and punctured, the two basal segments very sparsely, the third and fourth more closely at the base, the four basal segments with a transverse row of punctures before the apical margin; the fifth segment deeply and closely punctured; the pygidium rugose at the base, the apical half with eight or nine broad but not very strongly elevated longitudinal carinæ, those in the middle more

obscure; the sides of the segments with long, sparse, grey pubescence slightly tinged with fulvous. The first recurrent nervure is slightly curved outwardly close to the top, the second is oblique and is received beyond two-thirds from the base of the second cubital cell.

Black; the extreme apex of the pygidium and the spines of the tibiæ and tarsi obscurely ferruginous. Wings fusco-hyaline, tinted with yellow; nervures black.

Length 20 mm., exp. 29 mm.

*Hab.* Semangko, Selangor, 3500 ft. (*Annandale*); October.

Nearest to *T. fulvinerva*, Cam., from Northern India, from which it differs in the puncturation of the head and abdomen, in the colour of the wings and nervures, and the absence of long fulvous hairs on the head and thorax. It is also allied to *T. fumipennis*, Sm., under which name it is recorded by Colonel Bingham, Fascic. Malay., Zool. i. App., but differs markedly in the sculpture of the pygidium and the greater breadth of the head.

#### *Tiphia clypealis*, Cam.

*Tiphia clypealis*, Cam. Mem. Manchester Lit. & Phil. Soc. xli. no. 4, p. 47 (1897), ♂ (as ♀).

*Tiphia flavipennis*, Bingham, Fauna Brit. India, Hym. i. p. 59 (1897), ♂ ♀ (nec Smith).

*Tiphia quinquecarinata*, Cam. Ann. & Mag. Nat. Hist. (7) xiii. p. 288 (1904), ♀.

Bingham's description of *T. flavipennis* is taken from a specimen from Borneo which differs from continental specimens in the much longer median segment and the shape of the anterior margin of the clypeus. Cameron describes *T. clypealis* as a female, but the type in Rothney's collection is a male to which the description corresponds. *Tiphia lyrata*, Magr. Ann. Mus. Civ. Genova, (2<sup>a</sup>) xii. p. 252, 1892, ♀, may prove to be a form of this species, but, as Magretti regards it distinct from specimens identified by him as *T. flavipennis* which doubtless belong to the present species, I prefer not to treat the two forms as identical.

#### *Tiphia polycarinata*, Magr.

*Tiphia polycarinata*, Magr. Ann. Mus. Civ. Genova, (2<sup>a</sup>) xii. p. 250 (1892), ♀.

*Tiphia conscia*, Nurse, Journ. Bombay Nat. Hist. Soc. xiv. p. 81 (1902), ♀.

*Tiphia erythroceræ*, Cam. Mem. Manchester Lit. & Phil. Soc. xli. p. 50 (1897), ♀ (?).

This is a wide-ranging species and will probably be found

to spread over the whole of India and Burma. *T. erythro-cera*, Cam., from Masuri, has only three carinæ on the median segment and may perhaps prove to be distinct, but as the development of the intermediate carinæ shows a good deal of variation, I think it will probably prove to be at most a local variety.

*Tiphia decrescens*, Walker.

*Tiphia decrescens*, Walk. Ann. & Mag. Nat. Hist. (3) iv. p. 376 (1859)

♂ (as ♀).

*Tiphia nervosa*, Nurse, Journ. Bombay Nat. Hist. Soc. xiv. p. 81

(1902), ♂.

*Tiphia* sub  $\beta$  (*lævigata*), Magr. Ann. Mus. Civ. Genova, (2<sup>a</sup>) xii. p. 254 (1892), ♂.

This will probably prove to be the male of *T. polycarinata* as Nurse suggests. Walker's type is from Ceylon, and agrees well with a specimen from Burma. The stigma is almost black in the type of *decrescens* and ferruginous in *nervosa*, but other specimens show intermediate gradations. The stigma is said by Magretti to be small, but in specimens I have seen it is rather large.

*Tiphia fulvicornis*, sp. n.

♀. Clypeus narrowly truncate at the apex, finely punctured at the base, broadly smooth at the apex. Head shining, closely but not very deeply or coarsely punctured on the front, more sparsely on the vertex and round the ocelli. Antennæ inserted twice as far from the eyes as from each other; the scape shining, finely and closely punctured above, with pale fulvous hairs beneath, the second joint of the flagellum very slightly longer than the first, the third half as long again as the second. Pronotum rather sparsely punctured, the posterior margin smooth, the propleuræ smooth and shining, very finely and obscurely longitudinally striated on the lower margin; mesopleuræ rather sparsely punctured; scutellum shining, sparsely punctured, with a very fine, obscure, longitudinal sulcus in the middle. Median segment opaque, coriaceous, smooth and shining at the posterior angles, rectangular, nearly half as broad again as long, moderately convex in the middle, the lateral and posterior margins slightly raised, forming fine carinæ; the posterior truncation almost vertical, shining and very finely aciculated; the three longitudinal carinæ on the dorsal surface parallel, not very near together, the median one not quite reaching the apex. Abdomen shining, rather finely punctured, much more sparsely on the two basal segments than on the others,

the first segment broadly transversely depressed on the apical margin, the epipygium very broadly rounded at the apex, coarsely punctured, the punctures confluent longitudinally, the apical margin broadly smooth. The radial cell is entirely open at the apex. The sides of the median segment are obliquely striated.

Black; with white pubescence on the legs and the sides of the abdomen; the mandibles, the apex of the clypeus, the apex of the scape, the first joint of the flagellum, the tegulæ, the apex of the pygidium, and the spines of the tibiæ and tarsi fusco-ferruginous; the flagellum from the second joint orange. Wings dark fusco-violaceous, the posterior pair paler and without the strong purple gloss; nervures black.

Length 14 mm., exp. 23 mm.

*Hab.* Damaraland.

Type in Oxford University Museum, ex coll. Saunders.

*Tiphia monomatapa*, sp. n.

♀. Clypeus finely and closely punctured at the base, the apical margin transverse, broadly smooth and shining. Scape closely and finely punctured, with long fulvous hairs beneath, the first two joints of the flagellum and the apex of the third shining, the remainder of the flagellum opaque and very finely pubescent. Head closely and rather coarsely punctured, more sparsely on the front below the anterior ocellus. Pronotum closely and rather strongly punctured, the posterior margin broadly smooth; the propleuræ punctured anteriorly, almost smooth and shining at the margins posteriorly; the mesopleuræ closely and coarsely punctured. Mesonotum very coarsely but sparsely punctured, the scutellum more finely punctured. Median segment slightly convex above, much broader than long, subopaque, exceedingly delicately punctured-striate, the posterior truncation very slightly concave, the margins raised; the dorsal surface with the usual three longitudinal carinæ, the central carina not quite reaching the apex, the two outer carinæ twice as far apart at the base as at the apex; the sides of the segment finely obliquely striated. Tegulæ very large, finely and closely punctured, smooth at the extreme base and apex. Abdomen rather strongly punctured, most sparsely on the basal segment, most closely on the apical half of segments 3-5; the pygidium longitudinally rugose, the apex very broadly finely punctured, with an obscure median carina. Two cubital cells, the division of the first faintly indicated on the radial nervure, the stigma very small.

Black ; the mandibles, the scape of the antennæ at the apex, the flagellum more distinctly beneath than above, the apex of the femora, the spines of the tibiæ and tarsi, and the extreme apex of the pygidium fusco-ferruginous ; the extreme apex of the pronotum, of the tegulæ, and of the abdominal segments testaceous ; the pubescence whitish. Wings hyaline, very faintly tinged with yellowish brown, most strongly in the radial cell ; nervures fusco-ferruginous.

Length 13 mm.

*Hab.* Salisbury, Mashonaland (*G. A. K. Marshall*) ; February.

Near *T. natalensis*, Sm., from which it may be distinguished by the longer tegulæ, the smaller stigma, the sculpture of the median segment, and the less marked constriction of the apex of the first abdominal segment.

*Tiphia scabrosa*, Gerst.

*Tiphia scabrosa*, Gerst. Monatsber. kön. Akad. Wiss. Berlin, p. 512 (1857), ♀.

*Tiphia rugosa*, Sm. Descr. N. Sp. Hym. p. 185. n. 4 (1897), ♀.

*Hab.* Inhambane (*Peters*) ; Zululand (*Smith*).

*Tiphia abrupta*, sp. n.

♀. Clypeus very delicately punctured ; the head rather coarsely, but not very closely punctured, least closely round the ocelli. Pronotum rather coarsely and very closely punctured, the posterior margin narrowly smooth and shining ; the propleuræ finely striated, smooth and shining at the summit ; the mesopleuræ closely, but not very coarsely punctured ; mesonotum and scutellum punctured, the punctures larger and more scattered than on the pronotum. Median segment short and broad, opaque and finely rugulose, the median carina reaching the apex, the two outer carinæ rather far apart, converging slightly towards the apex, the distance between them at the apex about three-quarters of that at the base ; the sides of the segment obliquely striated. Tegulæ closely punctured, the extreme apex smooth and shining. Abdomen shining, closely punctured, the two basal segments a little more sparsely than the others, the basal segment very abruptly truncate at the base, rather strongly constricted at the apex, the apical margin of all the segments very narrowly smooth. Epipygium longitudinally punctured rugose, the apex broadly smooth and shining. The stigma is large and the radial cell very broad.

Black, with whitish pubescence ; the mandibles and the

intermediate tibiæ dark fusco-ferruginous; the antennæ, anterior tibiæ and tarsi, intermediate tarsi, and the apex of the pygidium dark ferruginous. Wings flavo-hyaline, nervures ferruginous, the stigma fuscous.

Length 9 mm.

*Hab.* Salisbury, Mashonaland (G. A. K. Marshall); December.

Very near *T. pedestris*, Gerst., but in that species the abdomen is almost smooth; the colour is also different. The present species has a fine transverse carina at the base of the first abdominal segment above the anterior truncation, which is not mentioned by Gerstaecker in his description of *T. pedestris*.

### *Tiphia brevipennis*, Luc.

*Tiphia brevipennis*, Luc. Explor. scient. de l'Algérie, iv. p. 285, pl. 15. fig. 9 (1846), ♀ (nec Cameron).

*Pseudotiphia brevipennis*, Ashm. Cam. Ent. xxxv. p. 6 (1903), ♀.

Ashmead makes a new genus for this species and places it in his family Myzinidæ, but without giving any reason for the change. The shortened and useless wings and the smaller eyes seem to be the only characters distinguishing the species from *Tiphia*, and unless the male when discovered also shows distinguishing features, which is not very probable, I do not consider the formation of a new genus necessary, much less the removal into a different family. *Tiphia brevipennis*, Cam. from Barrackpore is quite a different species and will have to receive a new name, so I propose the name *Tiphia petri* for that species.

### *Tiphia meridionalis*, sp. n.

♀. Head closely and rather deeply punctured, most closely on the front, most sparsely round the ocelli; the scape punctured, with long hairs beneath and a few shorter hairs above, scarcely exceeding in length the second and third joints of the flagellum combined. Pronotum rather closely punctured anteriorly, the posterior half smooth and shining, the face of the anterior truncation finely and rather sparsely punctured; the propleuræ smooth and shining at the summit, striated below; mesopleuræ rather strongly but not very closely punctured; mesonotum sparsely punctured, most closely on the middle, the tegulæ smooth and shining, the scutellum very sparsely punctured. Median segment shining, very minutely punctured, nearly twice as broad as long in the middle, a little depressed posteriorly before the base of the truncation, the three carinæ parallel and rather

far apart, the sides of the segment strongly striated. Abdomen shining, the two basal segments sparsely punctured, the third and fourth more finely and closely punctured at the base, sparsely at the apex, the fifth closely and rather finely punctured, the epipygium punctured rugose at the base, the apical half smooth. The stigma is about twice as long as broad, obliquely truncate at the apex, the lower margin straight, not rounded.

Black; the flagellum fusco-ferruginous, paler at the apex; the spines of the tibiæ fuscous, those of the tarsi paler; the apex of the abdominal segments and of the pronotum very narrowly pale testaceous, the apex of the pygidium narrowly ferruginous. Wings hyaline, clouded in the radial cell, nervures fusco-ferruginous, the stigma fuscous. Pubescence whitish. Mandibles fusco-ferruginous.

Length 12 mm.

*Hab.* Argentina (*Burmester*). Type in B. M.

Very near *T. aztecæ*, Cam., from Mexico, but in that insect the head is rather larger and broader, the posterior ocelli nearer together, the scape of the antennæ a little longer, and the stigma much narrower. The punctures in *T. azteca* are larger and not so close.

*Tiphia elongata*, sp. n.

♀. Clypeus finely punctured at the base, broadly smooth and shining at the apex; the apical margin shallowly and rather widely emarginate in the middle. Front coarsely, but not very closely punctured, the vertex and the space round the ocelli shining and very sparsely punctured; scape shining, rather closely punctured, clothed beneath with long fulvous hairs, the two basal joints of the flagellum shining, the remainder covered with fine down. Pronotum sparsely punctured at the base, the posterior margin broadly smooth and shining, the propleuræ smooth and shining above, very finely striated below; the mesopleuræ shining and very sparsely punctured. Mesonotum sparsely punctured, the tegulæ finely punctured on the inner margin; scutellum and postscutellum with a few scattered punctures. Median segment very long, much longer than broad, almost smooth, but not highly polished; the three median carinæ nearly parallel, the outer ones less than half as far again from each other at the base as at the apex, the surface of the posterior truncation irregularly rugulose, the sides of the segment finely obliquely striated. Abdomen shining; the two basal segments almost entirely smooth, the first with a transverse row

of punctures before the apex and rounded anteriorly, the second with a transverse, longitudinally striated groove at the base; the third sparsely and finely punctured at the base and apex; the fourth and fifth more closely punctured; the epipygium coarsely punctured-rugose at the base, smooth and shining at the apex. The first recurrent nervure is received just before the middle of the first cubital cell, the second just beyond the middle of the second cubital cell.

Black; the mandibles, the apex of the pygidium, and the spines of the tibiæ and tarsi ferruginous brown; antennæ fusco-ferruginous beneath and at the extreme apex. Wings hyaline, tinted with yellow, stigma and nervures ferruginous.

Length 9 mm., exp. 14 mm.

*Hab.* Theresopolis, S. Brazil.

Type in B. M.

*Tiphia jonesii*, sp. n.

♂. Clypeus finely and very closely punctured, the anterior margin truncate. Front finely and very closely punctured, thinly clothed with long, pale, fulvous pubescence, the space round the ocelli shining, sparsely and more coarsely punctured; the scape finely punctured, shining and clothed beneath with rather long, pale fulvous pubescence. Pronotum finely and closely punctured, the posterior margin rather narrowly smooth and shining; propleuræ finely and obscurely striated, smooth and shining at the top. Mesonotum and scutellum shining and rather sparsely punctured; the median segment subopaque, with the usual three carinæ, the two outer carinæ more than twice as far apart at the base as at the apex; finely punctured, aciculate near the lateral margins, the sides of the segment closely striated; the mesopleuræ rather sparsely punctured. Abdomen closely punctured, with sparse fulvous pubescence, the first segment rather short, the apical half smooth and shining, with a transverse row of fine punctures before the apex, the second segment more sparsely punctured than the following one. Radial cell short, the second cubital cell extending beyond it, the second transverse cubital nervure strongly oblique and interstitial with the oblique apical nervure of the radial cell. The first recurrent nervure is received at the middle of the first cubital cell, the second just beyond the middle of the second cubital cell.

Black; the pubescence on the sides grey, on the dorsal surface very pale fulvous; the antennæ beneath fusco-ferruginous, the tarsi except the basal joint, and the spines of the tibiæ and tarsi ferruginous. Wings hyaline, stigma and nervures ferruginous.

Length 7 mm.

*Hab.* Castro; Parana (*E. Dukinfield Jones*).

Type in B. M. Described from two specimens.

*Tiphia flavipennis*, Spin.

*Tiphia flavipennis*, Spin. Ann. Soc. Entom. France, (1) x. p. 102 (1841), ♀ (nec Smith).

*Tiphia elegans*, Cam. Biol. Centr.-Amer., Hym. ii. p. 240 (1893), ♂ ♀.

*Tiphia ochroptera*, D. T. Cat. Hym. viii. 139 (1897).

I do not understand why Dalla Torre sinks Spinola's name, which has priority over Smith's. As Smith's name has to sink, I propose *T. borneensis* for that species. I regard specimens from the continent of Asia which have been referred to *flavipennis* as distinct.

*Tiphia intricata*, Sm.

*Tiphia intricata*, Sm. Descr. N. Sp. Hym. p. 188. n. 13 (1879), ♂ ♀.

*Tiphia carinata*, Cam. Biol. Centr.-Amer., pt. 112, Hym. ii. p. 245 (1893), ♂ ♀.

*Tiphia parallela*, Sm.

*Tiphia parallela*, Sm. Descr. N. Sp. Hym. p. 185. n. 7 (1879), ♀.

*Tiphia gaumeri*, Cam. Biol. Centr.-Amer., Hym. ii. p. 244 (1893), ♀.

*Tiphia inornata*, Say.

*Tiphia inornata*, Say, Keating's Narrat. Exped. ii. App. p. 331 (1824).

? *Tiphia guatemalensis*, Cam. Biol. Centr.-Amer., Hym. ii. p. 241 (1893).

The differences in sculpture seem to be too slight to be of specific importance.

Genus PÆCILOTIPHIA, Cam.

As I have before said, I agree with Ashmead in regarding this genus as allied to *Myzine* rather than to *Tiphia*. Although there are only two cubital cells as in *Tiphia*, the second transverse cubital nervure seems to be missing, not the first as in *Tiphia*. The female is unknown.

In spite of some differences in neuration, I am inclined to think that the following species are nearly allied to this genus: *Methoca rugosa*, Cam., in which there are two cubital cells, and *Myzine dimidiaticornis*, Bingham, in which there are three. They show many points in common, and are not well placed in the genera to which the authors have assigned them. The claws of *M. dimidiaticornis*, however, are bifid, not simple, which together with the difference in neuration may be sufficient to form a new genus for it, but it is better to wait till the female is known. The antennæ of all three species differ widely from those of *Myzine*, and the pronotum is much longer.